5.0 COMPARISON OF ALTERNATIVES

Table 5-1 provides a comparison of the Proposed Action (Alternative 1) with Alternative 2 (offshore pipeline to Kustatan), Alternative 3 (offshore pipeline to Trading Bay), and Alternative 4 (no action). Comparisons are presented by resource area or topic and by environmental issue or impact within each topic.

Most environmental impacts discussed in Section 4 are negligible to minor. Areas with moderate to major or permanent potential impacts include the following:

- Minor to moderate short-term impacts on water quality and wetlands if a spill were to occur. Spills could consist of oil, gas, diesel fuel, or produced water from the Osprey Platform, onshore or underwater pipelines, or Kustatan Production Facility. The level of impact would depend on the size and location of the spill
- Potentially significant and long-term adverse impacts on migratory birds if a major oil spill from the Osprey Platform, onshore or underwater pipeline, or Kustatan Production Facility were to occur. Impacts from smaller spills on birds may be minor to moderate and long-term, depending on size, location, and timing of the spill.
- Potentially significant long-term adverse impacts on the Cook Inlet beluga whale population if a major oil spill from the Osprey Platform or underwater pipeline were to occur. Impacts from smaller spills on the beluga population may be minor to moderate and long-term, depending on size, location, and timing of the spill.
- Potentially significant impacts on subsistence harvesting if a major oil spill from the Osprey Platform or underwater pipeline were to occur, including loss of access to key subsistence food items and subsistence habitats over the short to medium-term. The community of Tyonek would be most likely to be impacted.
- Moderate short-term impacts to the visual and recreational environment if a major oil spill from the Osprey Platform or underwater pipeline were to occur.
- Increased exposure of historical, cultural, and archaeological resources due to construction of the access road in a previously undisturbed area. Increased access could result in permanent and illegal damage to resources by trespassing and vandalism.

5.1 ENVIRONMENTALLY-PREFERRED ALTERNATIVE

Alternatives 1, 2, and 3 would all have similar potential impacts on the marine environment associated with offshore activities (e.g., Osprey Platform and underwater pipelines) if a major oil spill were to occur. Alternative 2 (offshore pipeline to Kustatan) and Alternative 3 (offshore pipeline to Trading Bay) have a somewhat higher likelihood of a pipeline rupture due to the increased length of the underwater pipeline. Based on statistics from an industry-sponsored risk assessment for Cook Inlet operations (PLG 1990), the predicted number of spills from the underwater pipeline over an assumed 30-year project life is 0.04 for Alternative 1 (proposed project), 0.09 for Alternative 2 (offshore pipeline to Kustatan), and 0.3 for Alternative 3 (offshore pipeline to Trading Bay) (NCG 2001). Therefore, Alternative 1 (proposed project) is expected to have the lowest level of adverse impacts resulting from activities in Cook Inlet. While mitigating measures can be employed to minimize the probability of a major spill, smaller spills are likely to occur and the risk of a major spill cannot be eliminated. Alternative 2, in addition to a higher pipeline rupture/leak probability, would require construction of the underwater pipeline across a boulder

field and may not be technically feasible. A proposed routing for Alternative 3 (offshore pipeline to Trading Bay) has not been defined; the technical feasibility of constructing a 10.5-mile pipeline from the Osprey Platform to Trading Bay is uncertain.

Onshore impacts, including impacts on water quality, are highest for Alternative 1 (proposed project) because of potential impacts from construction of the nearshore and onshore pipeline and access road and the Kustatan Production Facility. The access road would result in some minor wetlands destruction and would have the potential to impact historical, cultural, or archaeological resources. Leaks and spills from the onshore pipeline could impact terrestrial biota. Alternative 2 (offshore pipeline to Kustatan) does not involves construction of a short onshore pipeline, and therefore would have lower terrestrial impacts. Alternative 3 (offshore pipeline to Trading Bay) would not involve onshore impacts to the West Foreland area because no access road or onshore production facility would be constructed. A short (0.1-mile) road would be constructed in a previously developed area at Trading Bay. Most of the onshore impacts associated with the proposed project can be mitigated by: 1) minimizing wetland crossings and conducting wetlands mitigation and restoration activities as specified by a Corps of Engineers Wetlands Permit; and 2) avoiding locations known to contain cultural resources and conducting mitigation as specified in the Programmatic Agreement between Forest Oil, EPA, and the Alaska SHPO.

Based on the analysis of impacts presented in Section 4 and summarized in Table 5-1, Alternative 1 (proposed project) is judged to be the environmentally-preferred alternative. With proper mitigation and under the permit authority of other federal or state agencies, onshore impacts of the proposed project can be effectively mitigated and environmental impacts are not expected to be significant. Offshore impacts are lowest for the proposed project; while the potential for a major oil spill cannot be eliminated, the proposed project minimizes the underwater pipeline length and employs a variety of mitigation measures as described in Section 4. Therefore, potential adverse impacts on water quality and the marine environment are not expected to be significant.

5.2 AGENCY-PREFERRED ALTERNATIVE

Based on the rationale and discussion in Section 5.1 above, Alternative 1 (proposed project) is judged to be the agency-preferred alternative for the Redoubt Shoal Unit Development Project.

Table 5-1

Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Geology and Soils					
Nearshore sediment disturbance due to pipe trenching through the bluff at the tip of the West Foreland	Seafloor will be removed at a rate of 4.5 cu.ft./sec.; total volume of disturbance is unknown. Impacts likely to be short-term and minor.	Pipe trenching will not be conducted at West Foreland; method of nearshore pipeline placement at Kustatan Production Facility location not known. Impacts likely to be short-term and minor.	Pipe trenching will not be conducted at West Foreland; method of nearshore pipeline placement at Trading Bay is not known. Impacts likely to be short-term and minor.	No nearshore sediment disturbance.	Impacts short-term and localized; cumulative impacts are negligible.
Offshore sediment disturbance due to pipeline placement using pipe pulling or lay barge operations	Pipe pulling is most likely method; about 12 acres of seafloor will be disturbed along the 1.8 miles of underwater pipeline. Impacts likely to be short-term and minor.	Pipe lay barge method will be required; similar magnitude of seafloor impacts as Alternative 1 but spread over a wider corridor. Underwater pipeline is 3.3 miles rather than 1.8 miles, so over 20 acres of seafloor will be disturbed. Impacts likely to be short-term and minor.	Pipe lay barge method will be required; similar magnitude of seafloor impacts as Alternative 1 but spread over a wider corridor. Underwater pipeline is 10.5 miles rather than 1.8 miles, so 70 acres of seafloor area will be disturbed. Impacts likely to be short-term and minor.	No offshore sediment disturbance.	Impacts short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Geology and Soils, Continued					
Onshore terrain disturbance, including erosion and sedimentation, from construction of access road, pipelines, and Kustatan Production Facility	Access road will cross 1.8 miles of undisturbed terrain including 772 lineal feet of wetlands; Kustatan Production Facility will be constructed in previously disturbed area (Tomcat Exploratory Well site). Construction impacts likely to be short-term and minor.	Short pipeline/access (i.e., <1,000 feet) will be constructed to the Kustatan Production Facility. Terrain disturbance associated primarily with construction of the Kustatan Production Facility. Impacts likely to be short-term and minor.	Access road and Kustatan Production Facility will not be constructed, therefore no onshore terrain disturbance in the West Foreland area. A 0.1-mile onshore pipeline will be constructed at Trading Bay. Impacts likely to be short-term and minor.	No onshore terrain disturbance.	Impacts short-term and localized; cumulative impacts are negligible.
Gravel resources requirements for construction/modification of the pad for the Kustatan Production Facility and the access road; gravel will be purchased from native landowners	Less than 29,000 and 7,000 cu.yds. of gravel will be required to construct/modify the pad and access road, respectively. Impacts are likely to be short-term and negligible.	Less than 29,000 cu.yds. of gravel will be required to construct/modify the pad. Impacts are likely to be short-term and negligible.	No gravel required in the West Foreland area; minor gravel requirements for onshore pipeline placement at Trading Bay. Impacts are likely to be short-term and negligible.	No gravel required.	Impacts short-term and localized; cumulative impacts are negligible.
Natural disasters, including earthquakes, volcanism, and natural gas deposits	Proposed project is located in area with high seismic and volcanic activity; drilling through a natural gas pocket could cause a blowout. Low probability over the 20 to 30 year life of the project and stringent design criteria result in minor impacts.	Same as Alternative 1.	Same as Alternative 1.	Osprey Platform will be floated offsite, therefore no impacts from potential natural disasters.	In the event of a major geologic event, potential releases could contribute to overall impacts in Cook Inlet; however, contribution of the proposed project would be minor.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Meteorology and Air Quality					
Damage to Osprey Platform or pipelines due to severe wind, low temperatures, or ice	Unlikely due to stringent design critiera.	Same as Alternative 1.	Same as Alternative 1.	Osprey Platform will be floated offsite, therefore no impacts from severe weather.	Unlikely due to stringent design critiera.
Increased emissions of particulate matter (PM) during construction	Will occur during construction of access road/pipeline and Kustatan Production Facility; impacts short-term and minor.	Lower PM emissions during construction because shorter onshore pipeline/access road will be built; impacts short-term and minor.	No onshore construction activities except for 0.1-mile pipeline at Trading Bay; air quality impacts are short-term and negligible.	No construction will occur.	Impacts short-term and localized; cumulative impacts are negligible.
Increased air emissions of regulated pollutants (primarily NOx and CO) during drilling and production operations	Emissions predicted to be less than 250 tpy for all regulated pollutants; impact would be minor.	Same as Alternative 1.	Same as Alternative 1.	No increased air emissions.	Ambient air pollutant levels are low; proposed project represents only a small percent of total emissions in the area. Cumulative impacts are not significant.
Fire or explosion resulting from an accident on the Osprey Platform	Very unlikely event; impacts would be short-term.	Same as Alternative 1.	Same as Alternative 1.	No potential for emissions due to a platform accident.	Impacts short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Physical Oceanography					
Increased turbidity during pipeline placement	Strong currents near the platform will result in rapid dispersion of suspended sediments; impacts would be short-term and minor.	Longer pipeline than Alternative 1, thus somewhat greater quantities of sediment disturbed; rapid dispersion would occur; impacts would be short-term and minor.	Longer pipeline than Alternative 1, thus somewhat greater quantities of sediment disturbed; rapid dispersion would occur; impacts would be short-term and minor.	No pipeline would be constructed.	Impacts short-term and localized; cumulative impacts are negligible.
Pipeline damage or rupture due to current induced vibration, suspension of pipeline between sand and gravel waves, or pipeline abrasion from large boulders or ice	Stringent design criteria, careful pipeline routing, proper maintenance, and regular inspections will minimize risk of pipeline damage.	Slightly higher risk of pipeline damage than Alternative 1 due to longer pipeline (3.3 miles rather than 1.8 miles). Also, large boulder bed is located along the pipeline routing, increasing the likelihood of pipeline damage.	Slightly higher risk of pipeline damage than Alternative 1 due to longer pipeline (10.5 miles rather than 1.8 miles); no surveys have been performed along the pipeline routing, so potential risks not known.	No pipeline would be constructed.	Pipeline spills and leaks from the proposed project could contribute to cumulative impacts on the marine environment in Cook Inlet. Small spills would be unlikely to contribute significantly to cumulative impacts. A major spill would have significant impacts but has a low probability of occurrence.
Pipeline damage due to dragging of anchors	Pipeline corridors are marked on nautical charts; Osprey Platform and pipelines are not located in the main Cook Inlet shipping channel; pipeline damage due to anchor dragging is unlikely.	Slightly higher risk of pipeline damage than Alternative 1 due to longer pipeline (3.3 miles rather than 1.8 miles)	Slightly higher risk of pipeline damage than Alternative 1 due to longer pipeline (10.5 miles rather than 1.8 miles)	No pipeline would be constructed.	Unlikely to contribute significantly to cumulative impacts in Cook Inlet.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Marine Water Quality					
Increased suspended sediment concentrations during construction of the underwater pipeline	Suspended sediment concentrations at 1,000 feet downcurrent will be less than 50 mg/L; Cook Inlet background is 100 to 200 mg/L; impacts short-term and minor.	Longer pipeline than Alternative 1, thus somewhat greater quantities of sediment disturbed; rapid dispersion would occur; impacts would be short-term and minor.	Longer pipeline than Alternative 1, thus somewhat greater quantities of sediment disturbed; rapid dispersion would occur; impacts would be short-term and minor.	No pipeline would be constructed.	Impacts short-term and localized; cumulative impacts are negligible.
Permitted discharges of wastewater from the Osprey Platform	Discharges must meet water quality standards and NPDES effluent limits; impacts are negligible.	Same as Alternative 1.	Same as Alternative 1.	No discharges to marine waters would occur.	Discharges from Osprey Platform are minimal in comparison to other waste streams entering Cook Inlet; cumulative impacts are negligible.
Offshore releases of oil or gas from Osprey Platform or pipeline	A major spill would have potentially significant environmental impacts; probability of a major (e.g., >1,000 barrels) spill is low. Smaller spills could have minor to moderate impacts; 6 to 12 smaller spills (e.g., average of 5 barrels) are likely to occur. Impacts on water quality are short-term.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	No offshore releases of oil or gas would occur.	Oil spills and leaks from the proposed project could contribute to cumulative impacts on water quality in Cook Inlet. Small spills would be unlikely to contribute significantly to cumulative impacts. A major spill would have significant impacts but has a low probability of occurrence; impacts are short-term.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Freshwater Resources					
Erosion and sedimentation from earth moving activities during construction of Kustatan Production Facility and access road/pipeline	Use of construction BMPs including sediment barriers in wetlands will result in short-term and minor impacts. Coverage under the Storm Water Construction General Permit and development of a SWPPP will be required and will aid in minimizing construction impacts.	Short access road/onshore pipeline would be constructed, thus potential wetlands impacts are lower than for Alternative 1. Coverage under the Storm Water Construction General Permit and development of a SWPPP will be required and will aid in minimizing construction impacts.	No access road/onshore pipeline or onshore production facility would be constructed, therefore no construction impacts on freshwater resources.	No construction will occur.	Impacts short-term and localized; cumulative impacts are negligible.
Freshwater requirement of 19,000 barrels/day of water to support injection operations and maintain formation pressure	Deep groundwater (e.g., 12,000 feet) will be used to supply water; proposed water source is not potable. Impacts are negligible.	Same as Alternative 1.	Same as Alternative 1.	No freshwater would be required.	No cumulative impacts are anticipated.
Spills of oil, produced water, or diesel fuel from the onshore production facility or onshore pipeline	Spills could impact surface water and shallow groundwater in the area; however, there are few water users in the area. Impacts on wetlands could affect habitat (see terrestrial biological resources). Impacts of a spill are considered minor to moderate, depending on the size and location of the spill.	Onshore spills are less likely because shorter onshore pipeline would be constructed. Impacts of a spill from the Kustatan Production Facility are short-term and minor to moderate, depending on the size of the spill.	No onshore pipeline or production facility would be constructed; minimal likelihood of an oil spill along the 0.1-mile pipeline at Trading Bay. Impacts are short-term and negligible.	No onshore production facility or pipelines would be constructed, therefore there are no impacts on freshwater resources.	Impacts short-term and localized; cumulative impacts on freshwater resources in Cook Inlet are negligible to minor.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Marine Biological Resources					
Construction impacts on benthic communities due to seafloor disturbance	Benthic communities are sparse in the area due to highly energetic nature of the seafloor; impacts short-term and minor.	Increased seafloor disturbance due to longer pipeline, however impacts expected to be short-term and minor.	Increased seafloor disturbance due to longer pipeline, however impacts expected to be short-term and minor.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.
Noise associated with construction and oil production activities	May reduce productivity and cause temporary abandonment of bird nesting, feeding, and staging areas; impacts are short-term and minor to moderate if construction occurs during nesting periods (otherwise minor impacts). Impacts on marine mammals are short-term and negligible to minor.	Similar to Alternative 1, although pipeline construction would be in closer proximity to major concentrations of birds at the Redoubt Bay Critical Habitat Area.	Same as Alternative 1.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.
Permitted wastewater discharges from the Osprey Platform	Discharges must meet Alaska and federal water quality standards and are diluted by the strong tidal flux of Cook Inlet; impacts on marine biological resources are negligible.	Same as Alternative 1.	Same as Alternative 1.	No discharges to marine waters would occur.	Impacts are short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Marine Biological Resources, Continued					
Oil spills from the Osprey Platform or underwater pipeline	Impacts of a major spill are potentially signficant, with long-term impacts. Of particular concern are impacts to birds and sea otters. A major spill is unlikely to occur during the life of the project; 6 to 12 smaller spills are predicted to occur (see Table 4-2). These will have negligible to moderate impacts on marine biota.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	No offshore releases of oil or gas would occur.	Oil spills and leaks from the proposed project could contribute to cumulative impacts on marine biological resources in Cook Inlet. Small spills would be unlikely to contribute significantly to cumulative impacts. A major spill would have significant impacts but has a low probability of occurrence; impacts are potentially long-term.
Threatened and Endangered Species					
Noise associated with construction and oil production activities	Most threatened and endangered species occur infrequently near the project site. Noise could result in stress to Cook Inlet beluga whales, reducing fitness and survivorship. Impacts short-term, and unlikely to significantly impact belugas.	Same as Alternative 1.	Same as Alternative 1.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.
Permitted wastewater discharges from the Osprey Platform	Not likely to adversely affect threatened or endangered species.	Same as Alternative 1.	Same as Alternative 1.	No discharges to marine waters would occur.	Impacts are short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Threatened and Endangered Species, Continued					
Oil spills from the Osprey Platform or underwater pipeline	Impacts of a major spill could cause impacts to individual Steller sea lions, particularly pups, but is not likely to adversely impact the population. The Cook Inlet beluga population could be adversely affected by a major spill; however a major spill is unlikely to occur during the life of the project. Smaller oil spills could result in minor to moderate impacts on the Cook Inlet beluga population.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	No offshore releases of oil or gas would occur.	Oil spills and leaks from the proposed project could contribute to cumulative impacts on Cook Inlet beluga whales. Small spills would be unlikely to contribute significantly to cumulative impacts. A major spill could have significant impacts on belugas, but has a low probability of occurrence; impacts are potentially long-term.
Terrestrial Biological Resources					
Wetlands habitat alteration and loss	Access road construction involves 772 lineal feet of wetlands crossing, or disturbance of about 2.2 acres of wetland. About 360 feet of crossing can be avoided by rerouting the road slightly. Impacts are minor due to the small area of wetlands affected.	The short access road and Kustatan Production Facility are not located in a wetland, therefore impacts are negligible.	The access road and Kustatan Production facility would not be constructed; therefore, there are no impacts to wetlands.	No onshore production facility or pipelines would be constructed, therefore there are no impacts on wetlands habitat.	Impacts are to a small area and are unlikely to contribute to cumulative effects.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Terrestrial Biological Resources, Continued					
Noise associated with construction and oil production activities	May reduce productivity and cause temporary abandonment of bird nesting, feeding, and staging areas; impacts are short-term and minor to moderate if construction occurs during nesting periods (otherwise minor impacts). Impacts on terrestrial mammals are short-term and minor.	Similar to Alternative 1, although pipeline construction would be in closer proximity to major concentrations of birds at the Redoubt Bay Critical Habitat Area.	No pipeline or onshore production facility would be constructed; platform impacts on terrestrial biota are negligible.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.
Fugitive dust and emissions from vehicles along the access road	Frequency of vehicles is expected to be low; impacts are short-term and negligible.	The access road would not be constructed, there no impacts would occur.	The access road would not be constructed, there no impacts would occur.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.
Increased aircraft and supply-boat traffic to and from the Osprey Platform during production activities and operational noise from the Kustatan Production Facility	Impacts from increased traffic and noise on terrestrial biota are expected to be short-term and minor.	Same as Alternative 1.	Same as Alternative 1.	No production activities will take place.	Impacts are short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Terrestrial Biological Resources, Continued					
Spills of oil, produced water, or diesel fuel from the Kustatan Production Facility or onshore pipeline	Impacts of a major spill are potentially significant, with long-term impacts. Of particular concern are impacts to birds. A major spill is unlikely to occur during the life of the project; smaller spills from the onshore pipeline or production facility may occur. These would have negligible to moderate short-term impacts on populations of terrestrial biota.	Onshore spills are less likely because no onshore pipeline would be constructed. Impacts of a spill from the Kustatan Production Facility are short-term and minor to moderate, depending on the size of the spill.	No onshore pipeline or production facility would be constructed; minimal likelihood of an oil spill along the 0.1-mile pipeline at Trading Bay. Impacts are short-term and negligible.	No onshore releases of oil and gas would occur.	Oil spills and leaks from the proposed project could contribute to cumulative impacts on terrestrial biological resources, especially birds, in the Cook Inlet area. Small spills would be unlikely to contribute significantly to cumulative impacts. A major spill would have significant impacts but has a low probability of occurrence; impacts on birds are potentially long-term.
Socioeconomic Impacts					
Increased local employment and financial impacts on the local economy during construction	Project construction would result in the addition of at least 10 permanent jobs, and over $60 million in construction costs passing through the local economy.	Expect somewhat fewer permanent jobs and lower construction cost because no onshore pipeline or access road would be constructed.	Expect somewhat fewer permanent jobs and lower construction cost because no onshore production facility would be constructed.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Socioeconomic Impacts, Continued					
Increased local employment and services requirements during production operations	Drilling activities would provide 55 full-time jobs; production operations will support 10 jobs. During the 20-year production phase, the State of Alaska will receive $7.5 million per year in royalties. About $2 million per year in property taxes and $2 million per year operations and maintenance spending is estimated.	Same as Alternative 1.	Same as Alternative 1.	No construction or production operations will occur, and therefore no positive impacts on the local economy will occur.	Activities may slightly offset effects of reduced oil production in the region by providing direct and indirect employment and economic benefits to the local communities.
Oil spills from the Osprey Platform or underwater pipeline	Negative impacts to the commercial fishing industry could occur as a result of a major spill, particularly salmon fisheries in the central and upper inlet.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	No offshore releases of oil or gas would occur.	The proposed project will not add significantly to potential cumulative effects from oil and gas production in Cook Inlet.
Subsistence Harvesting					
Conflicts between construction activities and subsistence set net fisheries along the West Foreland shore	Interruption of set net fisheries along the West Foreland due to construction activities would be short-term and minor; potential conflicts can be avoided through coordination of construction activities with local residents.	Pipeline would not come ashore at the West Foreland, and therefore no construction impacts on subsistence harvesting are expected to occur.	Pipeline would not come ashore at the West Foreland, and therefore no construction impacts on subsistence harvesting are expected to occur.	No construction will occur.	Impacts are short-term and localized; cumulative impacts are negligible.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Subsistence Harvesting, Continued					
Increased population and industrial development	Development pressures as a result of the proposed project are anticipated to be minimal; no impacts on subsistence harvesting are expected.	Same as Alternative 1.	Same as Alternative 1.	No development will occur, therefore there will be no impacts on subsistence harvesting.	No cumulative impacts are anticipated.
Oil spills from the Osprey Platform or underwater pipeline	A major oil spill could result in loss of access to key subsistence food items and subsistence habitats, particularly for the community of Tyonek. Impacts of a major spill would be potentially significant but short-term. Small spills will result in negligible impacts on subsistence harvesting.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	No offshore or onshore releases of oil or gas would occur.	Oil spills and leaks from the proposed project could contribute to cumulative impacts on subsistence harvesting in the Cook Inlet area. Small spills would be unlikely to contribute significantly to cumulative impacts. A major spill would have moderate and short-term impacts.
Land and Shoreline Use and Management					
Conflicts with land use and management objectives	No impacts to land and shoreline use are anticipated.	Same as Alternative 1.	Same as Alternative 1.	No development will occur, therefore there will be no impacts on land and shoreline use.	No cumulative impacts are anticipated.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Transportation System					
Conflicts with Cook Inlet vessel movements in the central inlet	The Osprey Platform is not located in the main channel where more and larger ship traffic would occur, but in relatively shallow water immediately west of the deeper main channel passing between the Forelands. Impacts to transportation systems are negligible to minor.	Same as Alternative 1.	Same as Alternative 1.	The Osprey Platform will be floated offsite, and no impacts on transportation systems are expected.	No cumulative impacts are anticipated.
Visual Environment/Aesthetics					
Visibility of the platform and oil spill impacts	Given the presence of 15 other offshore platforms in upper Cook Inlet, the Osprey Platform would not significantly impact the visual environment. An oil spill could result in short-term moderate impacts due to oiled beaches.	Same as Alternative 1.	Same as Alternative 1.	The Osprey Platform will be floated offsite, and no oil spills will occur.	Given the presence of 15 other offshore platforms in upper Cook Inlet, negligible cumulative impacts on the visual environment would result from the proposed project.

Table 5-1 (Continued)
Comparison of Environmental Impacts of the Proposed Action and Alternatives

Environmental Issues/Impacts	Likelihood/Level of Impact				
	Alternative 1 (Proposed Project)	**Alternative 2**	**Alternative 3**	**Alternative 4 (No Action)**	**Cumulative Impacts**
Recreation Impacts					
Oil spills from the Osprey Platform or underwater pipeline	A major oil spill could result in locally heavy oiling of beaches used for recreational activities, tainting of fish and waterfowl hunting areas and stocks, and restrictions to recreational and tourist-related vessels due to the presence of oil on the water surface. Impacts are potentially significant but short-term from a large spill, negligible to minor from smaller spills.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	Similar to Alternative 1. Slightly higher probability of oil spills or leaks due to longer underwater pipeline.	No offshore or onshore releases of oil or gas would occur.	Impacts are short-term and localized; cumulative impacts are negligible.
Cultural, Historical, and Archaeological Impacts					
Disturbance or destruction of archaeological/cultural resource artifacts during onshore construction activities	Coordination with the SHPO, including development of a Progammatic Agreement, will minimize the potential for destruction of artifacts. Trespassers could engage in vandalism of sites as the access road is not secured. Potential for vandalism is unknown but is believed to be low due to the limited human use potential of the area.	Same as Alternative 1.	No construction activities would be conducted in the Kustatan area, and therefore there would be no impacts on cultural, historical, or archaeological resources.	No construction will occur, and therefore there will be no impacts on cultural resources.	No other development is planned for the Kustatan area, and except for Kustatan Production Facility and access road, is likely to remain mostly undisturbed. Therefore, cumulative impacts from the proposed project on cultural and archaeological resources are unlikely.